JSR

NATURAL
CONVECTION OVEN

JSON-Series
NATURAL CONVECTION OVEN
amb. +10 $^{\circ}$C ~ 250 $^{\circ}$C

JSON-Series Natural (Gravity) Convection Ovens heat up chamber by mild gravity air convection with heating element located on the chamber bottom. Ideal for drying fine powders, general and conventional laboratory drying applications.

JSON-Natural Convection Oven
with OPTIONAL Cabinet Stand

Features

Performance

Temperature Range　　　: amb. +10 $^{\circ}$C to 250 $^{\circ}$C
Temperature Accuracy　　: within +/- 0.5 $^{\circ}$C
Temperature Uniformity : within +/- 4.0 $^{\circ}$C
Natural (Gravity) air convection for drying applications of fine powder and/or glassware.
Asymmetrically designed heating system enhances mild and uniform hot air circulation for better temperature uniformity.
50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust.

Construction

Durable epoxy powder coated metallic casing.
Ventilation damper.
Corrosion resistant Stainless Steel 304 chamber.
Double layered glass window for easy observation of samples.

Convenience

Removable and adjustable shelf by 25mm spacing.
Easy-to-open and air-tight one touch door latch.
Opening size adjustable ventilation damper.
Door switch cut-off heater and blower to protect user from exposure to hot air.

Safety

DOOR SENSOR WITH DOOR OPEN AUDIO VISUAL ALARM
DUAL OVER TEMPERATURE CUT-OFF BY CONTROLLER
AND INDEPENDENT THERMOSTAT
HIGH TEMPERATURE CUT-OFF AND AUDIO VISUAL ALARM
LOW TEMPERATURE CUT-OFF AND AUDIO VISUAL ALARM
PT SENSOR SHORT OR DISCONNECTION AUDIO VISUAL ALARM
OVER CURRENT CUT-OFF : Electrical Leakage Breaker
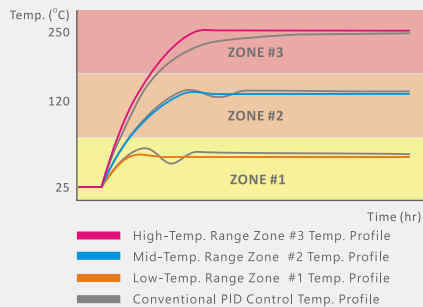
3-ZONE PID Algorithm
3-Point Calibration
1-Point Offset

Temperature Control

Digital Microprocessor PID Controller

High-fidelity clear back light LCD displays complete
setting and operating condition at a glance

UV Coated Polycarbonate Touch Panel

Easy-to-use Encoder Type Jog Dial for quick
and convenient setting of temperature and timer

0.1 $^\circ$C Control resolution

Turn-On and Turn-Off Timer up to 99 hour 59 min.

Temperature and Timer memory function in frequest use

3-Zone PID Algorithm

3-Point Calibration

1-Point Offset Calibration

Power Outage and Restore Function

Class A Pt-100 Ohm Sensor
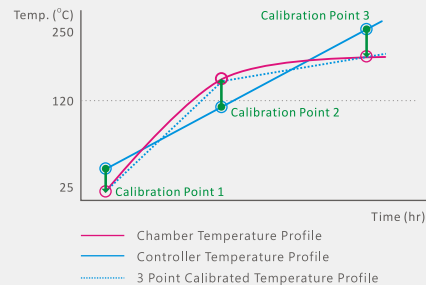
RS-232C PC Communication Interface [OPTION]

3-ZONE PID Algorithm

Temp. ($^\circ$C)

250

120

25

ZONE #3

ZONE #2

ZONE #1

Time (hr)

- High-Temp. Range Zone #3 Temp. Profile
- Mid-Temp. Range Zone #2 Temp. Profile
- Low-Temp. Range Zone #1 Temp. Profile
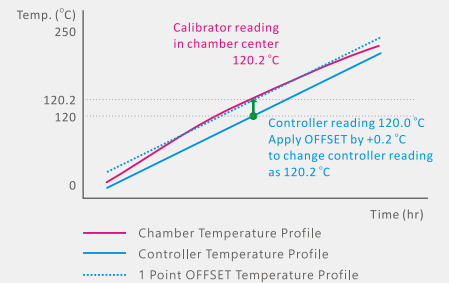- Conventional PID Control Temp. Profile

Complete temperature range is divided
into three zones (LOW/MIDDLE/HIGH)
and each ZONE has its individual PID
algorithm to provide precise and superior
temperature control characteristic
of whole temperature range.

3-Point Calibration

Temp. ($^\circ$C)

250

120

25

Calibration Point 3

Calibration Point 2

Calibration Point 1

Time (hr)

- Chamber Temperature Profile
- Controller Temperature Profile
- 3 Point Calibrated Temperature Profile

An excellent calibration tool to calibrate
chamber at THREE DIFFERENT TEMPEATURE
POINTS to adjust multiple temperature
bias to increase temperature accuracy
of WHOLE TEMPERATURE RANGE.

1-Point Offset

Temp. ($^\circ$C)

250

120.2
120

0

Calibrator reading
in chamber center
120.2 $^\circ$C

Controller reading 120.0 $^\circ$C
Apply OFFSET by +0.2 $^\circ$C
to change controller reading
as 120.2 $^\circ$C

Time (hr)

- Chamber Temperature Profile
- Controller Temperature Profile
- 1 Point OFFSET Temperature Profile

Provides simple and easy calibration tool
to calibrate chamber at ONE SPECIFIC
TEMPERTURE POINT of frequent use.

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PV

120.0 ^{c}

SV

120.0 ^{c}

TIME

TUNE

PUSH
RUN / STOP

Specifications

Model	JSON-050	JSON-100	JSON-150	JSON-250
Dimension Data				
Chamber Volume	50 Liters	100 Liters	150 Liters	250 Liters
Inner Dims. (WxDxH) mm	400 x 300 x 400	500 x 400 x 500	560 x 450 x 600	600 x 600 x 700
Outer Dims. (WxDxH) mm	560 x 525 x 710	660 x 625 x 810	720 x 675 x 910	760 x 825 x 1010
Window Dims. (WxH) mm	150 x 290	150 x 360	150 x 410	150 x 460
No. of Shelf Positions	12 ea	16 ea	20 ea	24 ea
No. of Shelf Included	2 ea	2 ea	2 ea	3 ea
No. of Ventilation Damper	2 ea	2 ea	2 ea	2 ea
Performance Data				
Heating System	Forced Convection			
Temperature Range	ambient +10 $^\circ$C to 250 $^\circ$C, 0.1 $^\circ$C resolution			
Temperature Accuracy at 120 $^\circ$C	+/- 0.3 $^\circ$C	+/- 0.3 $^\circ$C	+/- 0.5 $^\circ$C	+/- 0.5 $^\circ$C
Temperature Uniformity at 120 $^\circ$C	+/- 2.0 $^\circ$C	+/- 3.0 $^\circ$C	+/- 3.0 $^\circ$C	+/- 4.0 $^\circ$C
Heat-up Time to 120 $^\circ$C	10 min.	10 min.	15 min.	20 min.
Controller				
Type	Digital Microprocessor PID Temp. Controller with Capacitive Touch Button and Jog Dial			
Display	Full Size Digital Back Light Graphic LCD Display			
Control Logic	3 Zone PID Control			
Calibration	1 Point Temperature Offset			
	3 Point Temperature Calibration			
Turn-Off Timer	Max. 99 hr 59 min by 1 min resolution			
Turn-On Timer	Max. 99 hr 59 min by 1 min resolution			
Sensor	Class A Pt-100 Ohm Sensor			
Power Restoration	Power and Timer Restoration Function in case of power outage			
Communication Interface	RS-232C Communication Interface [OPTION]			
Material Data				
Body	Epoxy Powder Coated Steel			
Chamber	Stainlss Steel 304 (AISI304)			
Insulaton	50 mm Woven Mineral Wool with Aluminum Barrier			
Safety Data				
Safety Device	Door Open / Over Temperature / Over Current Protection Audio Visual Alarm			
Electrical Data				
Power Requirement	230 +/- 10% VAC I 50/60 Hz I 1 Phase			
Power Consumption	1.3 kW 5.5 amp	1.6 kW 6.8 amp	1.8 kW 7.7 amp	2.6 kW 11.3 amp
Plug Configuration	CEE 7/7 Schuko or BS 1363			
Usable Condition				
Temp. & Humidity	5 $^\circ$C - 40 $^\circ$C, 80% RH Max.			

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Ordering Information

JSON-Series

NATURAL CONVECTION OVEN

amb. +10 °C ~ 250 °C

Art. Number ▸ Descriptions

Art. Number	Descriptions		
JSON-050	Natural Convection Oven	50 Liter	230 VAC 1 ph 50/60Hz
JSON-100	Natural Convection Oven	100 Liter	230 VAC 1 ph 50/60Hz
JSON-150	Natural Convection Oven	150 Liter	230 VAC 1 ph 50/60Hz
JSON-250	Natural Convection Oven	250 Liter	230 VAC 1 ph 50/60Hz

Accessories ▸ Shelves

PHS-A03	Perforated Shelf, Stainless Steel 304 for JSON-050	W370 x D280 mm
PHS-A05	Perforated Shelf, Stainless Steel 304 for JSON-100	W470 x D380 mm
PHS-A07	Perforated Shelf, Stainless Steel 304 for JSON-150	W530 x D430 mm
PHS-A09	Perforated Shelf, Stainless Steel 304 for JSON-250	W570 x D580 mm
PHS-B03	Wire Shelf, Stainless Steel 304 for JSON-050	W370 x D280 mm
PHS-B05	Wire Shelf, Stainless Steel 304 for JSON-100	W470 x D380 mm
PHS-B07	Wire Shelf, Stainless Steel 304 for JSON-150	W530 x D430 mm
PHS-B09	Wire Shelf, Stainless Steel 304 for JSON-250	W570 x D580 mm
PHS-A99	Shelf Support, Set of 4 ea	

Accessories ▸ Cabinet Stands

PHC-050	Cabinet Stand with Caster for JSON-050
PHC-100	Cabinet Stand with Caster for JSON-100
PHC-150	Cabinet Stand with Caster for JSON-150
PHC-250	Cabinet Stand with Caster for JSON-250

DISTRIBUTOR

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